

What is claimed is:

1. A filter cartridge comprising:
 - a housing extending between axially spaced ends to define an interior
5 space, a fluid circulation opening at a first axial end and a sump opening at a
second axial end;
 - a filter element supported in said interior space intermediate said fluid
circulation opening and said sump opening;
 - a drain insert adjacent said sump opening, said drain insert comprising:
 - 10 an insert body with inside and outside surfaces and defining a
drain opening, said inside surface having an inwardly projecting ledge
defining a support surface axially spaced from said drain opening;
 - a nut having top and bottom surfaces connected by a peripheral
surface and defining a threaded axial opening; and
 - 15 a drain control element threadably engaged in said threaded axial
opening,
 - wherein said nut is fixed to said insert body with at least a portion of
said polygonal peripheral surface resting on said support surface, at least one
fluid flow passage being defined between said insert body inside surface and
20 said peripheral surface, said fluid flow passages communicating with said
drain opening and said drain insert is secured to said housing adjacent said
sump opening with said drain opening in communication with said sump
opening.
- 25 2. The filter cartridge assembly of claim 1, wherein said drain control
element comprises a drain cock which, when tightened blocks fluid flow
through said sump opening and when loosened permits fluid flow through said
sump opening.
- 30 3. The filter cartridge assembly of claim 1, wherein said drain control
element comprises a drain bowl fastened to an outside surface of said
housing by a fastener engaged with said threaded axial opening.

4. The filter cartridge of claim 1, wherein said support surface comprises a plurality of angularly spaced inwardly displaced portions of said insert body.

5. The filter cartridge of claim 4, wherein said peripheral surface is defined by a regular polygon and includes a plurality of corners and each said inwardly displaced portion defines a support surface portion flanked by inwardly projecting shoulders, each inwardly displaced portion receiving a corner of said nut between said shoulders whereby nut is substantially rotationally fixed relative to said insert body.

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6. The filter cartridge of claim 1, wherein said housing comprises upper and lower sections joined at a peripheral roll seam, said lower section including a central axial protrusion surrounding said sump opening, said insert body comprising a generally cylindrical axial wall configured to be closely received in said central axial protrusion and said ledge projects inwardly from said axial wall.

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7. The filter cartridge of claim 1, wherein said insert body comprises retaining arms projecting axially from opposed locations adjacent said drain opening, said retaining arms extending axially above said nut top surface and being bent against said top surface to retain said nut against said ledges.

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8. The filter cartridge of claim 1, wherein said insert body is formed from sheet metal having a thickness of approximately .036".

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9. The filter cartridge of claim 1, wherein said insert body comprises retaining arms projecting axially from opposed locations adjacent said drain opening, said retaining arms having an upper portion extending axially above said nut top surface and being bent against said top surface to retain said nut against said ledges and a lower portion, said lower portion having a lateral width greater than a lateral width of said upper portion.

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10. A drain valve insert for use in conjunction with a filter cartridge, said drain valve insert comprising:

an insert body having an inside surface, an outside surface and defining a drain opening, said inside surface including an inwardly projecting ledge, said ledge defining a support surface axially spaced from said drain opening; and

5 a nut having a periphery and defining a threaded axial opening;

wherein said nut is fixed to said insert body with said periphery supported by said support surface, at least one fluid flow passage being defined between said insert body inside surface and the periphery of said nut, said at least one fluid flow passage communicating with said drain opening.

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11. The drain valve insert of claim 10, wherein said insert body includes retaining arms projecting axially from opposed locations adjacent said drain opening, said retaining arms extending axially above said nut and being bent over said nut to retain said nut against said ledge.

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12. The drain valve insert of claim 11, wherein said retaining arms have an upper portion at a first width and a lower portion at a second width greater than said first width.

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13. The drain valve insert of claim 10, wherein said ledge comprises a plurality of angularly spaced ledges and said inside surface includes angularly spaced shoulders flanking each ledge, said shoulders configured to resist rotation of said nut relative to said insert body.

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14. The drain valve insert of claim 10, wherein said nut is square and said insert body includes four ledges arranged to support each corner of said square nut.

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15. The drain valve insert of claim 10, wherein said insert body is formed from sheet metal.

16. The drain valve insert of claim 10, wherein said nut defines a threaded axial opening.

17. A drain insert comprising:

an insert body defining a generally cylindrical cavity surrounding an axial opening, said cavity having an inside surface including an inwardly projecting ledge axially spaced from said opening; and

5 a nut having a periphery and defining a threaded central aperture;

wherein said nut is fixed to said insert body with at least a portion of said periphery resting on said ledge and a plurality of passages defined between said periphery and said inside surface, said passages communicating with said opening.

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18. The drain insert of claim 17, wherein said insert body includes retaining arms projecting axially from opposed locations adjacent said drain opening, said retaining arms extending axially above said nut and being bent over said nut to retain said nut against said ledges.

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19. The drain insert of claim 18, wherein said retaining arms have an upper portion at a first width and a lower portion at a second width greater than said first width.

20 20. The drain insert of claim 17, wherein said inwardly projecting ledge comprises a plurality of angularly spaced inwardly displaced portions of said insert body.